

NAVAL INSTITUTE for DENTAL and BIOMEDICAL RESEARCH



Captain James Ragain, DDS, MS, PhD
Commanding Officer
847-688-4678

james.ragain@ndri.med.navy.mil

Why Dental/Biomedical Research?

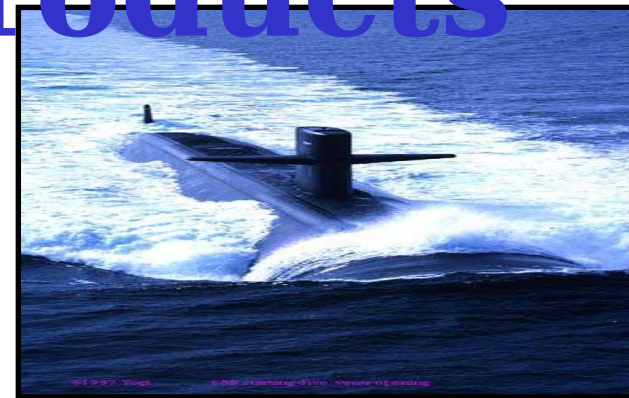
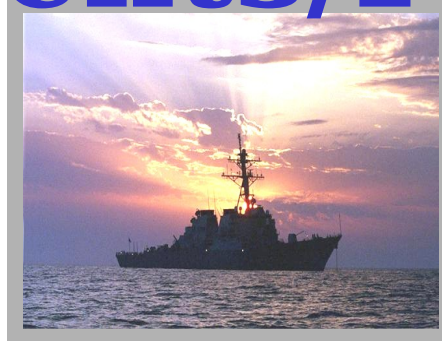
- Dental casualty rate
- Dental care anytime, every time, anywhere
- First responder treatment
- Environmental issues
- Evidence-based decisions
- Salivary diagnostic research capabilities



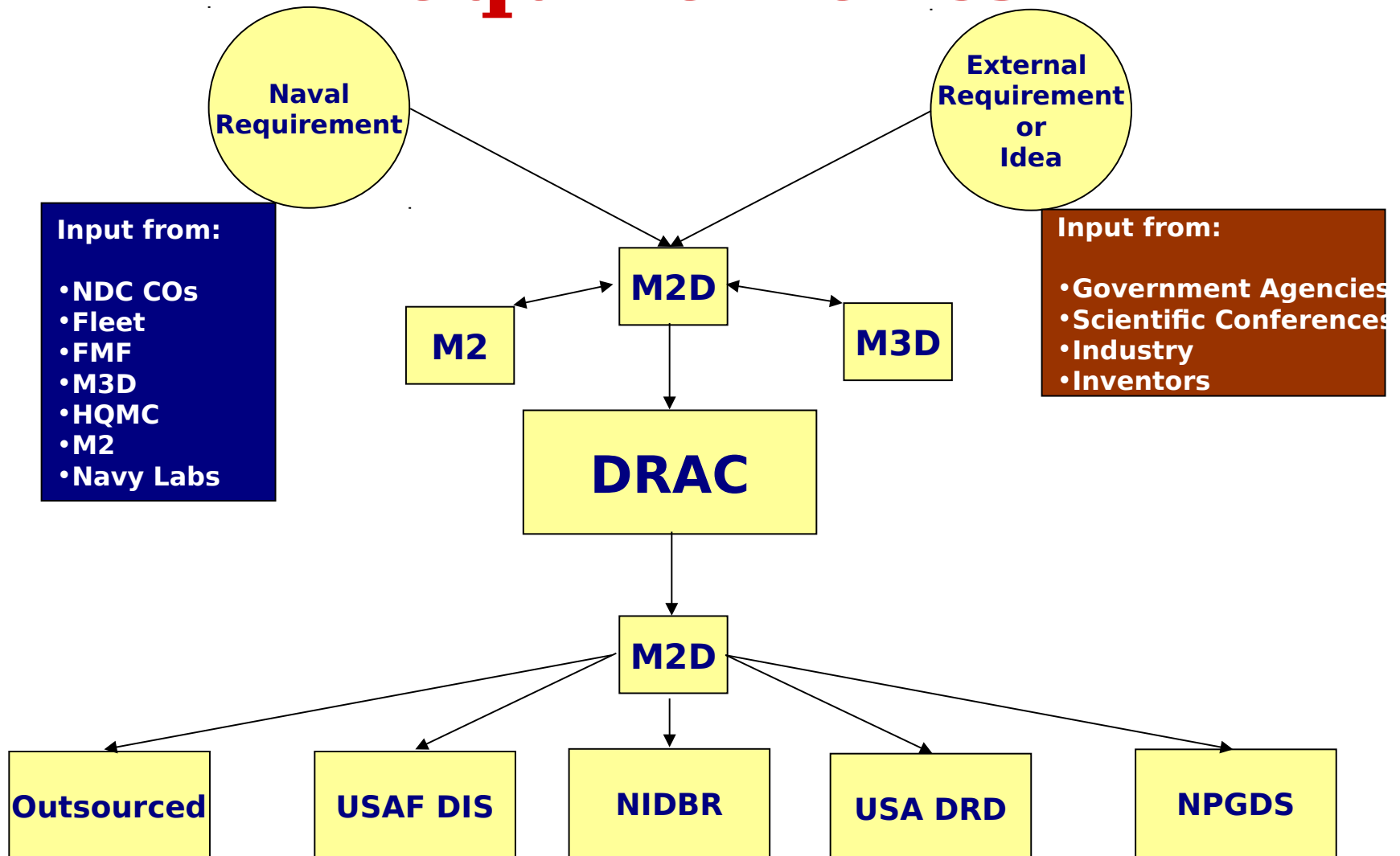
Ragain's Rules



Military Focus
Scientifically Sound
Research
Requirements/Products



Determining RDT&E Requirements



Current Projects

➤ Independent Duty Corpsmen CD-ROM

- Interactive dental triage
- Diagnosis & treatment of dental emergencies

➤ Longitudinal Study

- Evidence-based research
- Emergency rates
- Dental needs

➤ Far Forward Dental

Dressing

- Easy to use; reduces pain

➤ Dental Image Quiz CD-

- Keeps Warlighter on station
- Tasking from M3D
- Calibrate providers in use
- No mechanical dental classification system
- Instrumentation
- Delivered JAN 03 to M3D
- Joint Navy/Air Force/Ohio State

Current Projects

➤ ADAL 662 Evaluation

- USMC requirement
- Joint Navy/Air Force
- Component T & E

➤ Artificial Skin Development

- Skin characterization
- Young populations
- Restoration of function
- Quality of life improvement
- VA interest

➤ Salivary Diagnostics

- Rapid, hand-held
- Non-invasive
- Two methods
 - Lateral Flow & FP (FNC)
- CDC Validation Laboratory

➤ Mercury Abatement & Dental Unit Biofilms

- M3D tasking
- All Navy dental clinics, ships & field units

Collaborations

- **U.S. Environmental Protection Agency (EPA)**
- **World Health Organization (WHO)**
- **Veterans Affairs (VA)**
 - **VAMC Hines**
 - **NCVAMC North Chicago**
- **Office of Naval Research (ONR)**
- **Navy Environmental Health Center (NEHC)**
- **National Institute of Dental and Craniofacial Research (NIDCR)**
- **Centers for Disease Control and Prevention (CDC)**
- **British Defense Dental Agency**
- **Argonne National Labs (DOE)**
- **ADA Technologies**
- **Bamburgh-Marsh**
- **Chicago Medical School**
- **University of Illinois College of Dentistry (UIC)**
- **The Ohio State University (OSU)**
- **Creighton University**
- **University of Texas, Houston Diachemix, Inc.**
- **Millipore Corp.**
- **British Biocell International (BBI)**
- **Bioport Corp.**
- **Colorado State University (CSU)**
- **US Harvest Postal Protection Corp**
- **US Army Dental Research Detachment**
- **USAF Dental Investigation Service**
- **Naval Dental Center Great Lakes**
- **Naval Hospital Great Lakes**

Research Alignment With Warfighter Strategies

<i>Project</i>	<i>Sea Strike</i>	<i>Sea Shield</i>	<i>Sea Basing</i>	<i>USMC 21</i>
IDC CD-Rom	X	X	X	X
Longitudinal Study	X		X	X
Far Forward Dental Dressing	X		X	X
Dental Image Quiz	X		X	X
ADAL 662 Evaluation			X	X
Artificial Skin				
Salivary Diagnostics		X	X	X
Mercury Abatement & Biofilms	X		X	X

Research Alignment With Force Health Protection

<i>Project</i>	<i>Fit & Healthy</i>	<i>Deploy to Protect</i>	<i>Restore Health</i>	<i>Tricare for Life</i>
IDC CD-Rom		X	X	
Longitudinal Study	X			
Far Forward Dental Dressing		X	X	X
Dental Image Quiz	X			
ADAL 662 Evaluation		X		
Artificial Skin	X		X	X
Salivary Diagnostics	X	X		X
Mercury Abatement & Biofilms		X		

NIDBR Research



**Product
Oriented**

NIDBR Research



**Requirements
Driven**

NIDBR Research



**Supports the
Warfighter**